

CLAIMS

What is claimed is:

1. An apparatus for shelling an investment casting pattern comprising:
a tank for containing a coating material;
means for holding the pattern immersed in the coating material; and
means for vibrating the pattern during immersion of the pattern.
2. The apparatus of claim 1 further comprising:
a pump coupled to draw a vacuum around the pattern.
3. The apparatus of claim 1 wherein:
the means for vibrating is mounted to the means for holding.
4. The apparatus of claim 1 in combination with:
the coating material being a zircon slurry.
5. An apparatus for shelling an investment casting pattern comprising:
a tank for containing a coating material;
a holding element for holding the pattern immersed in the coating material; and
a vacuum source coupled to the tank to withdraw air from at least one headspace of
the tank.
6. The apparatus of claim 5 further comprising:
means for vibrating the pattern during immersion of the pattern.
7. The apparatus of claim 5 wherein:
a first said headspace is within a conduit containing the holding element and
extending downward into the tank; and
a second said headspace is outside of the conduit.
8. The apparatus of claim 5 in combination with:
the pattern, the pattern comprising a ceramic core and a wax layer over at least part of
the core.

9. A method for shelling an investment casting pattern comprising:
introducing the pattern to a vessel containing a coating material;
coating the pattern with the coating material; and
drawing a vacuum in the vessel proximate the pattern.
10. The method of claim 9 wherein:
the drawing includes a first drawing with an operative portion of the pattern above a
surface level of the coating so as to rupture bubbles in coating material previously applied to
the pattern.
11. The method of claim 9 further comprising:
rotating the pattern.
12. The method of claim 11 further comprising:
vibrating the pattern during the rotating.
13. The method of claim 9 wherein:
the vacuum is drawn from a headspace of a conduit partially immersed in the slurry.
14. The method of claim 9 wherein:
the drawing raises a level of the coating material in the vessel from a first height
below an operative portion of the pattern to a second height above the operative portion of the
pattern.
15. The method of claim 14 further comprising:
releasing said vacuum so as to drop said level; and
redrawing said vacuum, without immersing the operative portion, so as to encourage
the busting of bubbles within a coating of said coating material on said operative portion.